

Calendar

Wed., Aug. 15

THERE WILL BE NO
FERMILAB ILC R&D
MEETING THIS WEEK

3:30 p.m.

DIRECTOR'S COFFEE
BREAK - 2nd Flr X-Over
THERE WILL BE NO
FERMILAB COLLOQUIUM
THIS WEEK

Thurs., Aug. 16
1:00 p.m.

CANCELLED: [ILC ALCPG
Physics and Detector R&D
Seminar](#)

2:30 p.m.

[Theoretical Physics Seminar](#) -
Curia II

Speaker: M. Masip,
Universidad de Granada
Title: New Physics at the LHC

3:30 p.m.

DIRECTOR'S COFFEE
BREAK - 2nd Flr X-Over

4:00 p.m. [Accelerator Physics
and Technology Seminar](#) -
One West

Speaker: L. Cooley, Fermilab
Title: Summary of SRF
Materials Workshop held at
Fermilab 23-24 May 2007, and
SRF Materials Outlook

[Click here](#) for NALCAL,
a weekly calendar with links
to additional information.

Weather



**Chance of
Thunderstorms 84°/67°**

[Extended Forecast](#)
[Weather at Fermilab](#)

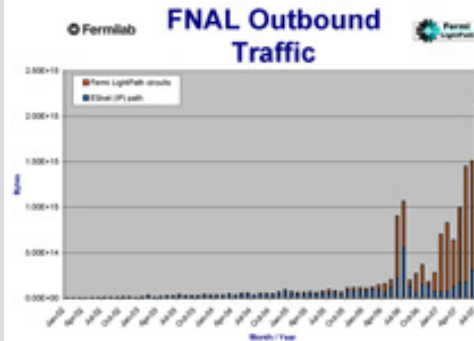
Current Security Status

[Secon Level 3](#)

Wilson Hall Cafe

Feature

Computing Division reaches data traffic milestone



Last month, Fermilab set a record for inbound, archived and outbound traffic, which is shown in the graph.

Last month, while many of the laboratory's departments were preparing for shutdown, Fermilab's network moved record volumes of both incoming and outgoing data. In July, total archived data reached a record of 6 petabytes, while data sent from the lab exceeded 2 petabytes, more than double the amount leaving the lab three months ago.

"Our traffic has been growing in terms of the amount of bytes we move onto the site as the LHC and CMS experiments ramp up," said Matt Crawford, the department head for Data Movement and Storage in Fermilab's Computing Division.

In June, outgoing data reached one-and-a-half petabytes, but prior to a year ago, traffic never exceeded a fourth of a petabyte in a month, Crawford said. He attributes the increase in both outgoing and incoming data to CMS, DZero and CDF collaborators actively moving data for analysis.

"Fermilab is one of seven Tier 1 sites for the CMS experiment, and over the last 120 days, Fermilab has supplied three fourths of the data that has been sent to the Tier 2 sites," Crawford said.

Fermilab also reached a record six petabytes (six million gigabytes) of data permanently recorded on tape. Crawford explained that disc storage is not reliable or economical over long times, so data is recorded to tapes, which can then be accessed later when data is

From the Computing Division

Swimming in data

Today's column is written by Vicky White, head of the Computing Division.

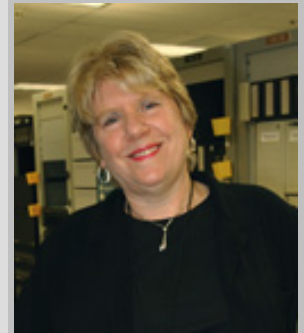
We talk plenty about the huge volumes of data that we store, catalog and distribute here at Fermilab. The lion's share comes from our scientific experiments.

Fermilab now stores more than six petabytes (or six million gigabytes) of scientific data. The flood of data from the CMS experiment at the LHC will be even larger. Last month we set records for data transferred both into and out of Fermilab as we practiced the arrival and distribution of CMS data (see story in this issue of *Fermilab Today*).

But what about all the other data that we are swimming in - or is it drowning in? Email has become overwhelming for many of us even as spam filters make valiant attempts to save us from all that unwanted clutter in our inboxes. People are struggling with the vast amount of information that a simple Google command returns, not to mention all the data stored on servers, in document databases, in financial systems and in the files of presentations given at meetings. Whatever you need to know is surely on the Web somewhere. But where was it exactly and did you remember to bookmark it?

The people who manage the Fermilab computing systems, monitor our networks and take care of computer security feel your pain. Although the amount of their data is not as massive as the volume of scientific data at Fermilab, it is nevertheless vast and quite unstructured. Take all of the log files, monitoring alerts, break-in attempts and network connection information and you have a gold mine of data for diagnosing the health of computing systems and services-if you could make sense of it.

Enter a piece of software with the unlikely



Vicky White

Wednesday, Aug. 15

-Vegetable beef
 -Fish & chips
 -Smart Cuisine: grilled salmon
 -Country fried steak w/pepper gravy
 -Beef & cheddar panini w/ sauteed onions
 -Assorted sliced pizza
 -Cavatappi pasta w/Italian sausage & tomato ragu

[Wilson Hall Cafe Menu](#)

Chez Leon**Wednesday, August 15 Lunch**

- Chinese chicken
 - Mushroom lettuce cups
 - Grilled bananas w/rum sauce

Thursday, August 16 Dinner

- Smoked salmon napoleon
 - Tournedos of beef w/madeira sauce
 - Cauliflower gratin
 - Vegetable of the season
 - Bourbon walnut pie

[Chez Leon Menu](#)

Call x4598 to make your reservation.

Archives

[Fermilab Today](#)

[Result of the Week](#)

[Safety Tip of the Week](#)

[ILC NewsLine](#)

Info

Fermilab Today is online at:
www.fnal.gov/today/

Send comments and suggestions to:
today@fnal.gov

needed.

Although the amount of incoming and outgoing data is growing quickly, Crawford said that the Computing Division has managed to stay "abreast or ahead" when it comes to infrastructure capacity. Currently the external network capacity is 60 gigabits per second, while an average desktop computer's connection is one-tenth of a gigabit per second.

If upgrades are necessary, the infrastructure is already in place. "We can add capacity at a low marginal cost," he said. "We would just send more different colors of light, different wavelengths, through our metropolitan optical fiber network to the Department of Energy's network interchanges in Chicago."

Photos of the Day**PPD ES&H open house session a success**

The Particle Physics Division recently held the third in a series of four planned Open Houses on ES&H topics. The topics for the most recent session included smoking and obesity and fitness. The final open house session will take place on September 14 and will cover winter safety, fireplace safety and home ergonomics.



From left, attendees with their prizes: Bob Wood, no smoking clock; Crae Tate, Fermilab combination hat and shirt; Bob DeMaat, Fermilab gym membership/no smoking clock; and Pete Simon, Fermilab sweater.

name of "Splunk," created to help IT professionals. [Splunk](#) is used extensively in the Computing Division to extract cyber security and system information from massive amounts of seemingly unrelated data from different sources. When we think something might be awry we can quickly make Splunk queries across the whole lab site and look at many views of the data to analyze the situation.

Information technology created the deluge of data. Fortunately, new information technology is coming along to help us deal with it.

In the News**From *msnbc.com*, August 13, 2007****How was the universe born?**

How did the universe come to be?

It is perhaps the greatest Great Mystery, and the root of all the others. The rest of humanity's grand questions — How did life begin? What is consciousness? What is dark matter, dark energy, gravity? — stem from it.

"All other mysteries lie downstream of this question," said Ann Druyan, the author and widow of astronomer Carl Sagan. "It matters to me because I am human and do not like not knowing."

[Read more](#)

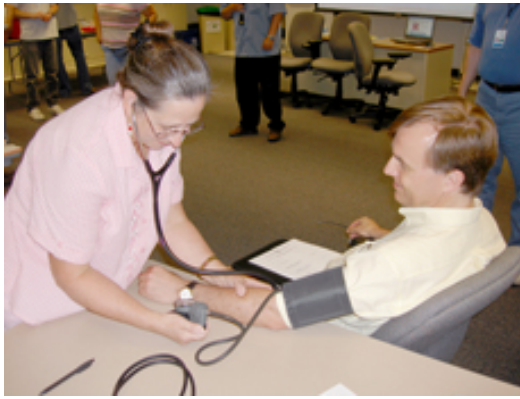
Announcements**FRA Scholarship Update**

FRA is pleased to announce its scholarship and tuition remission programs for various Illinois-based Universities. Employee Relations has placed the information on one website for your convenience. Please visit the [FRA Scholarship homepage](#) for links and contact information for each program.

NALWO end of summer picnic Aug. 24

NALWO will host an end of summer picnic on August 24 at 5:30 p.m. The event will be located in front of the Kuhn Barn in the picnic area, or in the barn in case of rain. Employees, users and their families are invited. Attendees should bring a dish to share and something for the grill. Small favors will be provided for children. Please contact [Jennifer Jansson](#), 879-0172 for more information.

[Additional Activities](#)



The Medical Department's Mae Strobel took the blood pressure of many attendees, including PPD head Jim Strait.